

1.0 PURPOSE AND NEED

360networks, inc. (formerly Worldwide Fiber) of Vancouver, British Columbia (BC) (the applicant) is proposing the Hibernia Transatlantic Telecommunications Project (Hibernia) to provide high-capacity fiber-optic connections between the United States (U.S.) and Europe. The overall project envisions an efficient communications system in terms of quality and reliability, designed to minimize potential data transmission disruptions due to network cuts and outages.

The overall Hibernia project would provide the first direct connection between the Republic of Ireland and North America. The increasing demand for global voice and data transmission capability requires the continuing installation of state-of-the-art fiber-optic cables, particularly between densely populated areas of the globe. Existing cable systems across the Atlantic Ocean are or shortly will be at maximum transmission capability, leaving no room for expansion as demand for electronic communications (phone, facsimile, email, Internet) increases. The proposed Hibernia project would add additional data transmission capability across the Atlantic Ocean.

The Boston, Massachusetts (MA) metropolitan area, being the chief center of commerce in the New England region, was selected as the project terminus in the U.S. In order to serve this area, portions of Massachusetts Bay closest to metropolitan Boston were evaluated for potential landing sites. A landing site at Lynn Beach, MA is proposed because it is relatively close to Boston, has favorable shoreline conditions, and because the proposed cable route to the landing site would avoid shipping lanes and dredge channels associated with Boston Harbor.

The portion of the Hibernia project between Boston, MA and Nova Scotia, Canada includes a segment that is proposed to traverse the Stellwagen Bank National Marine Sanctuary (NMS), which is managed by the National Ocean Service (NOS), of the U.S. National Oceanic and Atmospheric Administration (NOAA). NOAA conducted this Environmental Assessment (EA) to analyze the potential environmental effects of this section of the proposed project, and to support the NOAA decision-making process.

Section 1 of the EA presents a summary of the project's purpose and need, decisions to be made, permits and consultations, and the statutory basis of the EA. Section 2 provides a technical description of the proposed action and alternatives. Section 3 describes the affected environment within the project region. Section 4 presents findings on the environmental consequences of the proposed action and alternatives. Appendices contain additional technical data and consultation letters, and are referenced in the appropriate sections.

1.1 PROJECT PURPOSE AND UNDERLYING NEED

The purpose of the applicant's proposed action is to employ marine cable installation technology to install a buried submarine fiber-optic cable between Boston, MA and Nova Scotia, Canada, using the most direct route feasible. The project would use state-of-the-art cable installation technology to provide for the maximum possible integrity and safety of the installed cable.

The underlying need for the applicant's proposed action is to provide high-speed direct fiber-optic data transmission capabilities between North America and Europe to meet the growing need for commercial data transmission. The increasing demand for global voice and data transmission capability requires the installation of state-of-the-art fiber-optic cables to meet that demand. Existing trans-Atlantic cable systems are or shortly will be at maximum transmission capability, leaving no room for expansion.

Fiber optics is the preferred method of carrying voice, video, and data communications. Its superior information-carrying capacity enables the use of applications that require large amounts of bandwidth. Fiber-optic cable allows for optimization of transmission equipment because it lacks the delay found in satellite connections. Further, unlike satellite communications, fiber-optic cables are insensitive to electromagnetic and/or atmospheric interference and offer a secure link because of their relative immunity to eavesdropping. Finally, cable systems are much less expensive to install and repair than are satellite-based telecommunication systems (Earth Tech 1999).

The applicant has proposed the Hibernia Project to add necessary trans-Atlantic transmission capacity to meet growing demand. As the chief center of commerce for the New England region, the Boston area has been identified as the project terminus in the U.S. (Earth Tech 1999a).

1.2 DECISIONS TO BE MADE

This EA supports NOAA's decision-making process related to the proposed project. Specifically, the decisions to be made by NOAA are:

- Whether to authorize the permit to be issued by the U.S. Army Corps of Engineers (USACE) for the Preferred Alternative
- Whether to issue a special use permit for the Preferred Alternative

1.3 PERMITS AND CONSULTATION REQUIRED

To support NOAA in making the decisions identified above, the applicant has obtained or requested the following federal permits:

- USACE: A permit required under Section 10 of the Rivers and Harbors Act
- NOAA: Authorization of the Section 10 permit issued by the USACE
- NOAA: Special Use Permit, required under the regulations of the Stellwagen Bank NMS for the Preferred Alternative, and issuance of which is contingent on the analysis and conclusions set forth in this EA (15 Code of Federal Regulations [CFR] 922)

Consultations and coordination with the following agencies also are required.

- U.S. Fish and Wildlife Service, in accordance with provisions of Section 7 of the Endangered Species Act of 1973 (16 United States Code [U.S.C.]1531)
- National Marine Fisheries Service (NMFS) of NOAA, in accordance with provisions of the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361)
- NMFS of NOAA, in accordance with provisions of the Magnuson-Steven Fishery Conservation and Management Act, 1996 amendments
- Commonwealth of Massachusetts Historic Commission, Bureau of Underwater Archeological Resources, in accordance with provisions of Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800)

Table 1-1 presents other state and local permits applied for or obtained and consultations and coordination completed or underway. Appendix A of this document contains copies of correspondence related to consultation and coordination with key agencies at the federal, state, and local level.

1.4 STATUTORY BASIS

This EA was conducted in accordance with requirements of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et seq.*), regulations of the Council on Environmental Quality (40 CFR 1500-1508), and NOAA Administrative Order (NAO) 216-6. NOAA authorization and special use permit procedures for activities proposed within Stellwagen Bank NMS are set forth in 15 CFR 922, subparts E and N.

Subpart N, section 922.142 lists activities that are prohibited within the Stellwagen Bank NMS, unless a permit or other authorization has been obtained. Subpart E, section 922.49 states: “A person may conduct an activity prohibited if such activity is specifically authorized by any valid Federal, State, or local lease, permit, license, approval, or other authorization issued after the effective date of Sanctuary designation...” if certain provisions are met. Those provisions are:

- Formal notification by the applicant to the director of the Office of Ocean and Coastal Resource Management, NOAA
- Notification of the applicant by NOAA that NOAA has no objections to issuance of the authorization
- Submittal of additional information, if so requested by the director

NMFS notified the applicant, on March 3, 2000, that NMFS had no objections to issuance of a USACE permit, provided that the applicant obtain a NOAA authorization that is appropriately conditioned, and conduct a required NEPA analysis. Appendix A contains a copy of this correspondence.

Accordingly, the purposes of this EA are to:

- Determine whether the proposed action might have significant effects on the environment, and whether a more detailed study of those effects therefore would be warranted
- Identify and describe in detail potential mitigation measures that would be required of the applicant
- Review alternative courses of action

Table 1-1
Required State Permits and Agency Consultations

Permit	Issuing Agency	Permit Submittal Date	Permit Receipt Date	Comments
ENF Certificate	EOEA, MEPA Unit	9/99 – (10/9/99–date of notice in Monitor)	10/12/99	Secretary's certificate received; no environmental impact report is required.
401 Water Quality Certificate	Massachusetts Department of Environmental Protection	NA	NA	DEP has determined that the project does not require 401 water quality certification (correspondence dated November 18, 1999)
Statement of Consistency w/Ocean Sanctuaries Act	Massachusetts DEM	NA	11/1/99	Should be combined with Chapter 91 process; no official permit is required from DEM.
Federal Consistency Determination (based on Federal Consistency Certificate)	Massachusetts CZM	1/6/99	3/6/99	Other state permits must be obtained before issuance. Review by CZM will be combined with Chapter 91 process.
Chapter 91 License	Massachusetts DEP	10/8/99	2/1/00	401 Water Quality Certificate, NOI, and ENF certificate must be submitted with Chapter 91 before issuance of the license. The project is located within commonwealth tidelands, and therefore, the Governor's signature is required.
Construction Permit	MDC	12/3/99	1/3/99	The permit is required for installation of cable within the MDC park west of the seawall and within the Lynn right-of-way (ROW)
MESA Consultation	Division of Fish and Wildlife, Natural Heritage and Endangered Species Program	NA	NA	The Natural Heritage and Endangered Species Program consultation letter was received on October 1, 1999.

Notes:

CZM Coastal Zone Management

DEM Department of Environmental Management

DEP Department of Environmental Protection

ENF Environmental Notification Form

EOEA Executive Office Environmental Affairs

MESA Massachusetts Endangered Species Act

MDC Massachusetts Department of Construction

MEPA Massachusetts Environmental Policy Act

NA Not Applicable

NOI Notice of Intent

Table 1-2
Required Local Permits and Agency Consultations

Permit	Issuing Agency	Average Time to Obtain Permit	Permit Submittal Date	Permit Receipt Date	Comments
Order of Conditions (based on NOI)	Lynn Conservation Commission	1 month	10/18/99	12/1/99	Order of Conditions has been received
	Rockport Conservation Commission	1 month	10/5/99	10/31/99	Order of Conditions has been received
	Gloucester Conservation Commission	1 month	10/5/99	10/31/99	Order of Conditions has been received
	Manchester Conservation Commission	1 month	10/11/99	11/11/99	Order of Conditions has been received
	Beverly Conservation Commission	1 month	10/11/99	11/11/99	Order of Conditions has been received
	Salem Conservation Commission	1 month	10/12/99	11/12/99	Order of Conditions has been received
	Marblehead Conservation Commission	1 month	10/12/99	11/12/99	Order of Conditions has been received
	Swampscott Conservation Commission	1 month	10/5/99	11/5/99	Order of Conditions has been received
Road Opening Permit	Lynn Department of Public Works	Approximately 1 week	12/1/99	12/8/99	Coordination with the Lynn Police Department

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